

Gaurav Kumar

AI Automation Engineer | Python Scripting | Generative AI | Data Analytics

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PROFESSIONAL SUMMARY

Software Automation Engineer at Cisco, specializing in Python scripting, REST APIs, and ETL (Extract, Transform, Load) workflows. Proven track record building AI-driven automation tools, Generative AI and Large Language Model (LLM) solutions, Power BI dashboards, and Model Context Protocol (MCP) integrations. Cisco Certified Network Associate (CCNA) certified.

WORK EXPERIENCE

Cisco Systems

Aug 2025 – Aug 2026

Software Automation Engineer

Bangalore, India | Hybrid

- Developed and deployed the CEAD Labs inventory application using Python, Flask, Selenium and MongoDB, enabling searches across 13,000+ Cisco switch records by lab, rack, owner and status.
- Automated Snowflake and SharePoint data preparation with Python, standardising switch inventory records and reducing manual effort in recurring ETL and reporting workflows.
- Built Power BI adoption dashboards for C9350 and C9610 switch families, helping lab and engineering teams track adoption trends, reporting gaps and hardware utilisation.
- Implemented borrowed-asset loan tracking in the inventory application to support location/status lookup, ownership visibility and lab audits.

PROJECTS

Network Topology Automation MCP Tool

Jun 2026 – Jul 2026

Python, MCP, LLMs, Cisco service requests and network logs

- Worked on an MCP-based network automation tool using LLMs to analyze Cisco service requests, CSONE case artifacts, show-tech outputs, device logs and configuration files.
- Designed extraction logic for device roles, interfaces, topology relationships, configuration patterns and failure symptoms from unstructured troubleshooting data.
- Planned automated lab topologies with device/link recommendations, baseline configurations, OSPF/BGP routing considerations and traffic-generation needs for customer scenario reproduction.

VoiceAI Agent

Oct 2026 – Present

Python, MCP, Ollama (Qwen 2.5 3B), faster-whisper, FastAPI, WebSockets

- Built a FastMCP tool server over SSE exposing get_current_time, calculate (restricted arithmetic evaluator), and get_weather tools for zero-cost local agent execution.
- Architected the local LLM and speech input pipeline integrating Qwen 2.5 3B via Ollama and faster-whisper (small.en) for offline speech-to-text transcription.
- Designed the planned voice and UI architecture featuring Silero VAD for speech detection and barge-in, Piper for TTS output, and a FastAPI WebSocket browser interface.

EDUCATION

Chandigarh University

Aug 2020 – Jun 2024

Bachelor of Engineering in Computer Science

Mohali, Punjab

TECHNICAL SKILLS

Programming & Scripting: Python, SQL, Java, HTML/CSS, object-oriented programming (OOP)

Data & Analytics: pandas, NumPy, Jupyter Notebook, ETL, data cleaning, Power BI, Snowflake, MongoDB, MySQL, SharePoint

AI Foundations: Generative AI, large language models (LLMs), prompt engineering, Model Context Protocol (MCP), retrieval-augmented generation (RAG), LangChain, agentic AI, Transformers, Ollama, speech-to-text

Automation & APIs: Flask, FastAPI, WebSockets, Selenium, REST APIs, web data extraction, CLI/log parsing, JSON/YAML, Postman

Cloud & Dev Tools: AWS, Docker, Linux, Git/GitHub, CI/CD, Maven, JUnit, Codex, Copilot

Networking: OSI/TCP/IP, IPv4, VLANs, trunking, STP, EtherChannel, OSPF, BGP basics, ACLs, NAT, DHCP, DNS, ARP, TCP/UDP, wireless and security fundamentals

Cisco Troubleshooting: CLI show/debug commands, interface checks, configuration review, log parsing, connectivity troubleshooting and documentation; optical fiber and NCS1004 fundamentals

CERTIFICATIONS

- Cisco Certified AI Technical Practitioner, 2026
- Cisco Certified Network Associate (CCNA), 2026
- Generative AI Blue Belt – LLMs, prompt engineering, responsible AI and data handling
- Generative AI Green Belt – Applied GenAI, data privacy, conversation design and project framing

AWARDS & ACHIEVEMENTS

Cisco Codex Challenge Champion – “Think Really Big” Award

Jun 2026

- Conceptualised and prototyped an AI-powered workflow automation solution using Codex/OpenAI frameworks, earning recognition from executive leadership.